

```

s (ozone or ozon?)
  395487 OZONE
  448052 OZON?
S1      448052 S (OZONE OR OZON?)

? s s1 and (bacter? or fung? or vir? or disease or pathog?)
Processing
Processing
Processing
Processing
Processing
Processing
Processing
Processing
Processing
Processing
  448052 S1
  9844740 BACTER?
  3800168 FUNG?
  9847142 VIR?
  20106258 DISEASE
  5813319 PATHOG?
S2      41175 S S1 AND (BACTER? OR FUNG? OR VIR? OR DISEASE OR PATHOG?)

? s s2 and (therap$ or treat$ or preven$ or prophylac$)
  41175 S2
    0 THERAP$
    0 TREAT$
    0 PREVEN$
    0 PROPHYLAC$
S3      0 S S2 AND (THERAP$ OR TREAT$ OR PREVEN$ OR PROPHYLAC$)

? s s2
S4      41175 S S2

? s s4 and (treat? or therap?)
Processing
Processing
Processing
Processing
Processing
Processing
Processing
  41175 S4
  23847046 TREAT?
  17314350 THERAP?
S5      15965 S S4 AND (TREAT? OR THERAP?)

? s s5 and (intra or incoluat? or (administr?))
Processing
  15965 S5
  906044 INTRA
    16 INCOLUAT?
  8645663 ADMINISTR?
S6      986 S S5 AND (INTRA OR INCOLUAT? OR (ADMINISTR?))

? s s6 and (natural o reactive)
  986 S6
    0 NATURAL O REACTIVE
S7      0 S S6 AND (NATURAL O REACTIVE)

? s s6 and (natural or reactive)
  986 S6

```

5064146 NATURAL  
1765464 REACTIVE  
S8 132 S S6 AND (NATURAL OR REACTIVE)

? rd

>>>W: Duplicate detection is not supported for File 393.  
Duplicate detection is not supported for File 391.  
Records from unsupported files will be retained in the RD set.  
S9 74 RD (UNIQUE ITEMS)

? t 3,k/1-74

>>>E: Set 3,k does not exist

? t 3,k/1-74

>>>E: Set 3,k does not exist

? t 3,K/1-74

>>>E: Set 3,k does not exist

? t s9/3,k/1-74

>>>W: KWIC option is not available in file(s): 399  
9/3,K/1 (Item 1 from file: 5) Links  
Fulltext available through: STIC Full Text Retrieval Options  
Biosis Previews(R)  
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18942693 Biosis No.: 200600288088  
Ozone treatment reduces blood oxidative stress and pancreas damage in a  
streptozotocin-induced diabetes model in rats

Author: Martinez Gregorio; Al-Dalain Said Mohammed; Menendez Silvia; Guiliani  
Attilia; Leon Olga Sonia (Reprint)  
Author Address: Univ Havana, Ctr Studies Res and Biol Evaluat, CEIEB, IFAL, Havana,  
Cuba\*\* Cuba  
Author E-mail Address: olga@infomed.sld.cu  
Journal: Acta Farmaceutica Bonaerense 24 ( 4 ): p 491-497 OCT-DEC 2005 2005  
ISSN: 0326-2383  
Document Type: Article  
Record Type: Abstract  
Language: English  
Ozone treatment reduces blood oxidative stress and pancreas damage in a  
streptozotocin-induced diabetes model in rats

Abstract: In spite of the fact that ozone has been used as a therapeutical agent and beneficial effects have been observed, so far only a few biochemical and pharmacodynamic mechanisms have been studied. We have demonstrated that controlled ozone administration may promote an oxidative preconditioning or adaptation to oxidative stress, preventing the damage induced by Reactive Oxygen Species (ROS) through preservation of antioxidant endogenous systems. Taking into account that STZ produces ROS generation, which promotes pancreas damage with loss of its function, we studied ozone effects on blood oxidative stress and its relationship with pancreas injury mediated by STZ. Five groups of rats were classified as follows: (1) Non-diabetic control group treated only with citrate buffer solution; (2) positive control group using as a diabetes inductor; (3) Ozone group, receiving 10 treatments (1.1 mg/kg) one per day after STZ-induced diabetes; (4) Oxygen (26 mg/kg) one per day, as in group 3 but using oxygen only; (5) control ozone, as group 3, but without STZ. Ozone + STZ treatment improved glycemic control with regard to STZ group (16.1 +/- 1.45 vs 27.12 +/- 2.12 mmol/L). Blood oxidative stress was controlled by ozone as it was showed in the reduction of malondialdehyde, total hydroperoxides, and peroxidation potential. In... ..with these results, there was a decrease in the percentage of damaged pancreatic islets by ozone treatment. Ozone antioxidant properties preserved P-cells functions and reduced hyperglycemia. Taken together, these results suggest that this complementary medical approach may represent a

ozone2.txt

potential alternative in the treatment of diabetes and its complications.

Registry Numbers: ...reactive oxygen species... ...ozone;

Enzyme Commission Number:

DESCRIPTORS:

Diseases: ...metabolic disease; ... ..endocrine disease/pancreas, metabolic disease, therapy, chemically-induced... ...injury, endocrine disease/pancreas

Mesh Terms:

Chemicals & Biochemicals: reactive oxygen species... ...ozone;

Methods & Equipment: ozone treatment--

Geographical Name:

9/3,K/2 (Item 2 from file: 5) Links

Fulltext available through: STIC Full Text Retrieval Options

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18762521 Biosis No.: 200600107916

Ozone therapy on rats submitted to subtotal nephrectomy: Role of antioxidant system

Author: Calunga Jose Luis; Zamora Zullyt B; Borrego Aluet; del Rio Sarahi; Barber Ernesto; Menendez Silvia (Reprint); Hernandez Frank; Montero Teresita; Taboada Dunia

Author Address: Natl Ctr Sci Res, Dept Biomed, Ozone Res Ctr, POB 6414, Havana 6880, Cuba\*\* Cuba

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Journal: Mediators of Inflammation ( 4 ): p 221-227 AUG 31 2005 2005

ISSN: 0962-9351

Document Type: Article

Record Type: Abstract

Language: English

Ozone therapy on rats submitted to subtotal nephrectomy: Role of antioxidant system

Abstract: Chronic renal failure (CRF) represents a world health problem. Ozone increases the endogenous antioxidant defense system, preserving the cell redox state. The aim of this study is to evaluate the effect of ozone/oxygen mixture in the renal function, morphology, and biochemical parameters, in all experimental model of CRF (Subtotal nephrectomy). Ozone/oxygen mixture was applied daily, by rectal insufflation (0.5 mg/kg) for 15 sessions... ..index, and the sodium and potassium excretions (as a measurement Of tubular function) in the ozone group were similar to those in Sham group. Nevertheless, nephrectomized rats without ozone (positive control group) showed the lowest RPF, GFR, and urine excretion figures, as well as tubular function. Animals treated with ozone showed systolic arterial pressure (SAP) figures lower than those in the positive control group, but... ..compared to Sham group. Serum creatinine values and protein excretion in 24 hours in the ozone group were decreased compared with nephrectomized rats, but were still higher than normal values. Histological Study demonstrated that animals treated with ozone showed less number of lesions ill comparison with nephrectomized rats. Thiobarbituric acid reactive Substances were significantly increased in nephrectomized and ozone-treated nephrectomized rats in comparison with Sham group. In the positive control group, Superoxide dismutase (SOD) and catalase (CAT) showed the lowest figures in comparison with the other groups. However, ozone/oxygen mixture induced a significant stimulation in the enzymatic activity of CAT, SOD, and glutathione... ..glutathione in relation with Sham and positive control groups. In this animal model of CRF, ozone rectal administrations produced a delay in the advance of the disease, protecting the kidneys against vascular, hemorheological, and oxidative mechanisms. This behavior suggests ozone therapy has a protective effect oil renal tissue by downregulation of the oxidative stress shown in...

Registry Numbers: ...ozone

Enzyme Commission Number:

DESCRIPTORS:

Diseases: ...urologic disease, drug therapy, surgery

Mesh Terms:

ozone2.txt

Chemicals & Biochemicals: thiobarbituric acid-reactive substances... ..ozone--  
Methods & Equipment: ...therapeutic and prophylactic techniques, clinical techniques

Geographical Name:

9/3,K/3 (Item 3 from file: 5) Links

Fulltext available through: STIC Full Text Retrieval Options

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18485714 Biosis No.: 200510180214

Effects of ozone oxidative preconditioning on TNF-alpha release and  
antioxidant-prooxidant intracellular balance in mice during endotoxic shock

Author: Zamora Zullyt B (Reprint); Borrego Aluet; Lopez Orlay Y; Delgado Rene;  
Gonzalez Ricardo; Menenedez Silvia; Hernandez Frank; Schulz Siegfried  
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Journal: Mediators of Inflammation ( 1 ): p 16-22 FEB 24 2005 2005

ISSN: 0962-9351

Document Type: Article

Record Type: Abstract

Language: English

Effects of ozone oxidative preconditioning on TNF-alpha release and  
antioxidant-prooxidant intracellular balance in mice during endotoxic...

Abstract: Ozone oxidative preconditioning is a prophylactic approach, which favors the antioxidant-prooxidant balance for preservation of... ..in vivo and in vitro experimental models. Our aim is to analyze the effect of ozone oxidative preconditioning on serum TNF-alpha levels and as a modulator of oxidative stress on hepatic tissue in endotoxic shock model (mice treated with lipopolysaccharide (LPS)). Ozone /oxygen gaseous mixture which was administered intraperitoneally (0.2, 0.4, and 1.2 mg... ..alpha was measured by cytotoxicity on L-929 cells. Biochemical parameters such as thiobarbituric acid reactive substances (TBARS), enzymatic activity of catalase, glutathione peroxidase, and glutathione-S transferase were measured in... ..after LPS injection there was a significant increase in TNF-alpha levels in mouse serum. Ozone/oxygen gaseous mixture reduced serum TNF-alpha levels in a dose-dependent manner. Statistically significant decreases in TNF-alpha levels after LPS injection were observed in mice pretreated with ozone intraperitoneal applications at 0.2 (78%), 0.4 (98%), and 1.2 (99%). Also a significant increase in TBARS content was observed in the hepatic tissue of LPS-treated mice, whereas enzymatic activity of glutathione-S transferase and glutathione peroxidase was decreased. However in ozone-treated animals a significant decrease in TBARS content was appreciated as well as an increase in the activity of antioxidant enzymes. These results indicate that ozone oxidative preconditioning exerts inhibitory effects on TNF-alpha production and on the other hand it...

Registry Numbers: ...ozone;

Enzyme Commission Number:

DESCRIPTORS:

Diseases: ...bacterial disease, toxicity

Mesh Terms:

Chemicals & Biochemicals: ...thiobarbituric acid reactive substance...  
...injection administration; ... ..ozone--... ..antibacterial-drug,  
antiinfective-drug, intraperitoneal administration; ... ..antibacterial-drug,  
antiinfective-drug, intraperitoneal administration

9/3,K/4 (Item 4 from file: 5) Links

Fulltext available through: STIC Full Text Retrieval Options

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Page 4

18257923 Biosis No.: 200500164095

Potassium bromate-induced hyperuricemia stimulates acute kidney damage and oxidative stress

Author: Watanabe Satoshi (Reprint); Tajima Yukie; Yamaguchi Tomoko; Fukui Tetsuya  
Author Address: Fac Pharmaceut SciDept Hlth ChemShinagawa Ku, Hoshi Univ, 4-41,Ebara 2-Chome, Tokyo, 1428501, Japan\*\*Japan  
Author E-mail Address: satoshi@hoshi.ac.jp  
Journal: Journal of Health Science 50 ( 6 ): p 647-653 December 2004 2004  
Medium: print  
ISSN: 1344-9702 \_(ISSN print)  
Document Type: Article  
Record Type: Abstract  
Language: English

Abstract: ...exposure of mice to potassium bromate (KBrO<sub>3</sub>), which is a major disinfection by-product of ozonation and/or chlorination of bromide-containing raw waters. causes serious kidney failure and neuropathological disorders. We observed significant elevations of serum uric acid levels and xanthine oxidase activity by KBrO<sub>3</sub>, administration (1.2 mmol/kg) with elevating relative kidney weight, serum creatinine levels and renal oxidative stress. Therefore, allopurinol was administered to KBrO<sub>3</sub>-treated mice to examine if the elevation of blood uric acid levels causes acute kidney damage and renal oxidative stress. These KBrO<sub>3</sub>-induced elevations were significantly prevented by intraperitoneal administration of allopurinol (10 or 50 mg/kg) and significant correlation between kidney damage and uric acid levels was observed. Reduction of catalase activity in the kidney of KBrO<sub>3</sub>- treated mice, which results in the accumulation of hydrogen peroxide, was also restored by allopurinol. There... ..KBrO<sub>3</sub>-induced acute kidney damage. Allopurinol also suppressed KBrO<sub>3</sub>-induced increases of renal thiobarbituric acid reactive substances levels and renal protein carbonyl levels of mice. Furthermore, significant correlation between tween oxidative...

DESCRIPTORS:

Diseases: ...genetic disease, metabolic disease; ... ..urologic disease

Mesh Terms:

Chemicals & Biochemicals: ...enzyme inhibitor-drug, intraperitoneal administration; ... ..thiobarbituric acid reactive substances

9/3,K/5 (Item 5 from file: 5) Links

Fulltext available through: STIC Full Text Retrieval Options

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18163703 Biosis No.: 200500070768

Reversion by ozone treatment of acute nephrotoxicity induced by cisplatin in rats

Author: Gonzalez Ricardo (Reprint); Borrego Aluet; Zamora Zullyt; Romay Cheyla; Hernandez Frank; Menendez Silvia; Montero Teresita; Rojas Enis  
Author Address: Ozone Res Ctr, POB 6414, Havana, Cuba\*\*Cuba  
Journal: Mediators of Inflammation 13 ( 5-6 ): p 307-312 October 2004 2004  
Medium: print  
ISSN: 0962-9351  
Document Type: Article  
Record Type: Abstract  
Language: English  
Reversion by ozone treatment of acute nephrotoxicity induced by cisplatin in rats

Abstract: BACKGROUND: Ozone therapy has become a useful treatment for pathological processes, in which the damage mediated by reactive oxygen species is involved. Several lines of evidence suggest that cisplatin-induced acute nephrotoxicity is partially mediated by reactive oxygen species. Aims: To analyze the effect of ozone administration after cisplatin-induced acute nephrotoxicity. Methods: Male Sprague-Dawley rats were treated with five intra-rectal applications of ozone/oxygen

ozone2.txt

mixture at 0.36, 1.1 and 1.8 mg/kg after cisplatin intraperitoneal injection (6 mg/kg). Serum and kidneys were taken off 5 days after cisplatin treatment. Creatinine was measured in the serum and the activities of antioxidant enzymes and thiobarbituric acid reactive substances and glutathione content were analyzed in renal homogenate. Results: Ozone treatment diminished the increase in serum creatinine levels, the glutathione depletion and also reversed the inhibition... peroxidase activities induced by cisplatin in the rat kidney. Also, the renal content of thiobarbituric reactive substances was decreased by ozone/oxygen mixture applied after cisplatin. Conclusion: Intrarectal applications of ozone reversed the renal pro-oxidant unbalance induced by cisplatin treatment by the way of stimulation to some constituents of antioxidant system in the kidney, and...

Registry Numbers: ...ozone;

Enzyme Commission Number:

DESCRIPTORS:

Diseases: ...urologic disease, drug-induced

Mesh Terms:

Chemicals & Biochemicals: ...ozone--... ...metabolic-drug, rectal administration;  
... ...thiobarbituric acid reactive substance

9/3,K/6 (Item 6 from file: 5) Links

Fulltext available through: STIC Full Text Retrieval Options

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18116312 Biosis No.: 200500023377

Platelet function unaffected by ozonated autohaemotherapy in chronically haemodialysed patients

Author: Tylicki Leszek (Reprint); Lizakowski Slawomir; Biedunkiewicz Bogdan; Skibowska Anna; Nieweglowski Tomasz; Chamienia Andrzej; Debska-Slizien Alicja; Rutkowski Boleslaw

Author Address: Dept Nephrol Transplantol and Internal Med, Med Univ Gdansk, Debinki 7, PL-80211, Gdansk, Poland\*\*Poland

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Journal: Blood Coagulation & Fibrinolysis 15 ( 7 ): p 619-622 October 2004 2004

Medium: print

ISSN: 0957-5235

Document Type: Article

Record Type: Abstract

Language: English

Platelet function unaffected by ozonated autohaemotherapy in chronically haemodialysed patients

Abstract: Background The therapeutic use of ozone is still a controversial medical strategy due to the potential toxicity of ozone, which is recognized as a highly reactive oxidant The reactive oxygen species are known to induce platelet aggregation, the process involved in the development of atherosclerosis and cardiovascular events. In the present study, the influence of ozonated autohaemotherapy (O3-AHT) on the platelet function was evaluated in chronically haemodialysed patients with peripheral arterial disease. Methods This was an oxygen-controlled, cross-over study, in which nine sessions of autohaemotherapy with oxygen administration as a control were followed by nine sessions of O3-AHT. The platelet function was... assessed after nine sessions of O3-AHT and after nine sessions of autohaemotherapy with oxygen administration. SPA and AIPA did not change after the first session of O3-AHT as compared with the levels before this procedure. Conclusion O3-AHT with ozone concentration of 50 mug/ml and citrate as an anticoagulant does not induce platelet aggregation ...

Registry Numbers: ...ozone; ... ...reactive oxygen species

Enzyme Commission Number:

DESCRIPTORS:

Diseases: peripheral arterial disease--... ...vascular disease, diagnosis

Mesh Terms:

ozone2.txt

Chemicals & Biochemicals: ...ozone--... ..reactive oxygen species  
Methods & Equipment: ...clinical techniques, therapeutic and prophylactic  
techniques... ..ozonated autohaemotherapy... ..clinical techniques, therapeutic  
and prophylactic techniques  
Geographical Name:

9/3,K/7 (Item 7 from file: 5) Links

Fulltext available through: STIC Full Text Retrieval Options

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18044276 Biosis No.: 200400415065

Vitamin E supplements in asthma: a parallel group randomised placebo controlled  
trial

Author: Pearson P J K; Lewis S A; Britton J; Fogarty A (Reprint)

Author Address: City Hosp Nottingham Div Resp Med, Univ Nottingham, Clin Sci Bldg,  
Nottingham, NG5 1PB, UK\*\*UK

Author E-mail Address: andrew.fogarty@nottingham.ac.uk

Journal: Thorax 59 ( 8 ): p 652-656 August 2004 2004

Medium: print

ISSN: 0040-6376

Document Type: Article

Record Type: Abstract

Language: English

Abstract: ...incidence of asthma, and combinations of antioxidant supplements  
including vitamin E are effective in reducing ozone induced bronchoconstriction. A  
study was undertaken to investigate the effect of supplementation with vitamin E...  
...from a clinical trial register of adults with asthma were randomised to receive  
500 mg natural vitamin E or matched placebo for 6 weeks in a placebo controlled,  
double blind parallel group clinical trial. Inclusion criteria included age 18 - 60  
years, maintenance treatment of at least one dose of inhaled corticosteroid per day,  
a positive skin prick test... ..symptom scores, bronchodilator use, and serum  
immunoglobulin E levels. Results: In the primary intention to treat analysis the  
change in PD20 was similar in the vitamin E and placebo groups with... ..vitamin E  
supplementation on any other measure of asthma control, either in the intention to  
treat or per protocol analysis. There was also no effect of vitamin E  
supplementation on serum immunoglobulin levels. Conclusion: Dietary supplementation  
with vitamin E adds no benefit to current standard treatment in adults with mild to  
moderate asthma.

Registry Numbers: ...ozone;

Enzyme Commission Number:

DESCRIPTORS:

Diseases: ...immune system disease, respiratory system disease, drug therapy; ...

...respiratory system disease, chemically-induced

Mesh Terms:

Chemicals & Biochemicals: ...hormone-drug, inhalation administration; ...

...ozone--

Methods & Equipment: ...clinical techniques, therapeutic and prophylactic techniques

Geographical Name:

9/3,K/8 (Item 8 from file: 5) Links

Fulltext available through: STIC Full Text Retrieval Options

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17907757 Biosis No.: 200400278514

Ozone therapy in patients with retinitis pigmentosa

Author: Copello Mirtha (Reprint); Eguia Frank; Mennendez Silvia; Menendez Niusdalys

Author Address: Ozone Res Ctr, POB 6412, Havana, Cuba\*\*Cuba

ozone2.txt

Author E-mail Address: ozono@infomed.sld.cu

Journal: Ozone Science & Engineering 25 ( 3 ): p 223-232 June 2003 2003

Medium: print

ISSN: 0191-9512

Document Type: Article

Record Type: Abstract

Language: English

Ozone therapy in patients with retinitis pigmentosa

Abstract: The aim of this study is to determine the efficacy of ozone therapy in patients with Retinitis Pigmentosa (RP). A controlled, randomized, double blind clinical trial involving 68 patients was performed. Patients were divided into 2 groups: ozone, patients treated with ozone by rectal administration (dose=10 mg), during 15 sessions; control, as ozone group, but using oxygen. The main outcome variable was the visual field area (VFA). Results demonstrated a significant improvement (SI) in 88.2 % of patients treated with ozone in comparison with 23.5 % achieved in the control group. In the ozone group, VFA tend to stabilize beyond a mean time of 6.83 months with a loose in SI afterward. A temporal positive effect of ozone therapy, over the natural course of RP, was found.

Registry Numbers: ...ozone

Enzyme Commission Number:

DESCRIPTORS:

Diseases: ...congenital disease, eye disease, therapy

Mesh Terms:

Chemicals & Biochemicals: ...ozone

Methods & Equipment: ozone therapy--... ...clinical techniques, therapeutic and prophylactic techniques

Geographical Name:

Miscellaneous Terms: Concept Codes: ...ozone therapy efficacy

9/3,K/9 (Item 9 from file: 5) Links

Fulltext available through: STIC Full Text Retrieval Options

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17854336 Biosis No.: 200400224391

Effects of ozone oxidative preconditioning on nitric oxide generation and cellular redox balance in a rat model of hepatic ischaemia-reperfusion.

Author: Ajamieh H H; Menendez S; Martinez-Sanchez G; Candelario-Jalil E; Re L; Giuliani A; Fernandez Olga Sonia Leon (Reprint)

Author Address: Center of Studies for Research and Biological Evaluation (CEIEB-IFAL), University of Havana, Havana City, 10400, Cuba\*\*Cuba

Author E-mail Address: olga@infomed.sld.cu

Journal: Liver International 24 ( 1 ): p 55-62 February 2004 2004

Medium: print

ISSN: 1478-3223 \_(ISSN print)

Document Type: Article

Record Type: Abstract

Language: English

Effects of ozone oxidative preconditioning on nitric oxide generation and cellular redox balance in a rat model of...

Abstract: ...of liver may initiate the cascade of hepatocellular injury. It has been demonstrated that controlled ozone administration may promote an oxidative preconditioning or adaptation to oxidative stress, preventing the damage induced by reactive oxygen species and protecting against liver ischaemia-reperfusion (I/R) injury. Aims: In the present study, the effects of ozone oxidative preconditioning (OzoneOP) on nitric oxide (NO) generation and the cellular redox balance have been studied. Methods: Six... ...nitro-L-arginine methyl ester); (3) I/R (ischaemia 90 min-reperfusion 90 min); (4) OzoneOP+I/R; (5) OzoneOP+L-NAME+I/R; and (6)



ozone2.txt

L-NAME+I/R. The following parameters were measured... ..glutathione and MDA+4-HDA concentrations were observed just as a decrease of SOD activity. OzoneOP prevented and attenuated hepatic damage in I/R and OzoneOP+L-NAME+I/R, respectively, in close relation with the above-mentioned parameters. Conclusions: These results show that OzoneOP protected against liver I/R injury through mechanisms that promote a regulation of endogenous NO concentrations and maintenance of cellular redox balance. Ozone treatment may have important clinical implications, particularly in view of the increasing hepatic transplantation programs.

DESCRIPTORS:

Diseases: ...digestive system disease, vascular disease

Mesh Terms:

Methods & Equipment: ozone oxidative preconditioning...

Geographical Name:

9/3,K/10 (Item 10 from file: 5) Links

Fulltext available through: STIC Full Text Retrieval Options

Biosis Previews(R)

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16832015 Biosis No.: 200200425526

Similar protective effect of ischaemic and ozone oxidative preconditionings in liver ischaemia/reperfusion injury

Author: Ajamieh Hussam; Merino Nelson; Candelario-Jalil Eduardo; Menendez Silvia; Martinez-Sanchez Gregorio; Re Lamberto; Giuliani Attilia; Leon Olga Sonia (Reprint)

Author Address: Centre for Research and Biological Evaluation (CIEB-IFAL), University of Havana, PO Box 6079, Havana City, 10 600, Cuba\*\*Cuba

Journal: Pharmacological Research 45 ( 4 ): p 333-339 April, 2002 2002

Medium: print

ISSN: 1043-6618

Document Type: Article

Record Type: Abstract

Language: English

Similar protective effect of ischaemic and ozone oxidative preconditionings in liver ischaemia/reperfusion injury

Abstract: ...of liver may initiate the cascade of hepatocellular injury. It has been demonstrated that controlled ozone administration may promote an oxidative preconditioning or adaptation to oxidative stress, preventing the damage induced by reactive oxygen species (ROS) and protecting against liver ischaemia-reperfusion (I/R) injury. On the basis of those results we postulated that ozone treatment in our experimental conditions has biochemical parameters similar to the ischaemic preconditioning (IscheP) mechanism. Four... ..2): animals were subjected to 10 min of ischaemia and 10 min of reperfusion; (4) ozone oxidative preconditioning (OzoneOP), previous to the I/R period (as in group 2): animals were treated with ozone by rectal insufflation 1 mg kg<sup>-1</sup>. The rats received 15 ozone treatments, one per day, of 5-5.5 ml at the ozone concentration of 50 mug ml<sup>-1</sup>. The following parameters were measured: serum transaminases (AST, ALT... ..the I/R group (200 +- 22 and 117 +- 21.7 U l<sup>-1</sup>) while the OzoneOP maintained both of the enzyme activities (89.5 +- 12.6 and 43.7 +- 10 U... ..the preconditioning settings on the preservation of total sylfhydryl groups (IscheP: 6.28 +- 0.07, OzoneOP: 6.34 +- 0.07 mumol mg prot<sup>-1</sup>), calcium concentrations (IscheP: 0.18 +- 0.09, OzoneOP: 0.20 +- 0.06 mumol mg prot<sup>-1</sup>), and calpain activity (IscheP: 1.04 +- 0.58, OzoneOP: 1.41 +- 0.79 U mg prot<sup>-1</sup>) were observed. Both of the preconditionings attenuated... ..associated to I/R injury. Generation of malondialdehyde + 4 hydroxyalkenals was prevented by IscheP and OzoneOP without statistical differences between the two protective procedures. These results provide evidence that both of... ..measured. Although there were no differences from a biochemical point of view between Ischaemic and OzoneOPs, the histological results showed a more effective protection of OzoneOP than IscheP in our experimental conditions.

Registry Numbers: ...ozone;

Enzyme Commission Number:

ozone2.txt

DESCRIPTORS:

Diseases: ...digestive system disease, injury, vascular disease

Mesh Terms:

Chemicals & Biochemicals: ...ozone--... ...reactive oxygen species

Methods & Equipment: ozone oxidative preconditioning...

Geographical Name:

9/3,K/11 (Item 11 from file: 5) Links

Fulltext available through: STIC Full Text Retrieval Options

Biosis Previews(R)

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16519458 Biosis No.: 200200112969

Ozone treatment reduces markers of oxidative and endothelial damage in an experimental diabetes model in rats

Author: Al-Dalain Said Mohammed; Martinez Gregorio; Candelario-Jalil Eduardo;

Menendez Silvia; Re Lamberto; Giuliani Attilia; Leon Olga Sonia (Reprint)

Author Address: Center for Research and Biological Evaluation, CIEB-IFAL, University of Havana, Havana, 10400, Cuba\*\*Cuba

Journal: Pharmacological Research 44 ( 5 ): p 391-396 November, 2001 2001

Medium: print

ISSN: 1043-6618

Document Type: Article

Record Type: Abstract

Language: English

Ozone treatment reduces markers of oxidative and endothelial damage in an experimental diabetes model in rats

Abstract: Ozone has been used as a therapeutical agent and beneficial effects have been observed. However so far only a few biochemical and pharmacodynamic mechanisms have been elucidated. We demonstrate that controlled ozone administration may promote an oxidative preconditioning or adaptation to oxidative stress, preventing the damage induced by reactive oxygen species (ROS). Taking into account that diabetes is a disorder associated with oxidative stress, we postulate that ozone treatment in our experimental conditions might protect antioxidant systems and maintain, at a physiological level, other... ...associated with diabetic complications. Five groups of rats were classified as follows: (1) control group treated only with physiological saline solution; (2) positive control group using streptozotocin (STZ) as a diabetes inductor; (3) ozone group, receiving 10 treatments (1.1 mg kg<sup>-1</sup>), one per day after STZ-induced diabetes; (4) oxygen group... ...kg<sup>-1</sup>), one per day, as in group 3 but using oxygen only; (5) control ozone group, as group 3, but without STZ. The ozone treatment improved glycemic control and prevented oxidative stress, the increase of aldose reductase, fructolysine content and... ...changes with regard to non-diabetic control. The results of this study show that repeated administration of ozone in non-toxic doses might play a role in the control of diabetes and its...

Registry Numbers: ...ozone;

Enzyme Commission Number:

DESCRIPTORS:

Diseases: ...endocrine disease/pancreas, metabolic disease

Mesh Terms:

Chemicals & Biochemicals: ...ozone;

Methods & Equipment: ozone therapy--... ...therapeutic method

Geographical Name:

9/3,K/12 (Item 12 from file: 5) Links

Fulltext available through: STIC Full Text Retrieval Options

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16279310 Biosis No.: 200100451149

ozone2.txt

Oxidative preconditioning affords protection against carbon tetrachloride-induced glycogen depletion and oxidative stress in rats

Author: Candelario-Jalil E (Reprint); Mohammed-Al-Dalain S; Leon Fernandez O S; Menendez S; Perez-Davison G; Merino N; Sam S; Ajamieh H H  
Author Address: Center for Research and Biological Evaluation, Institute of Pharmacy and Food Sciences, University of Havana, Havana City, 10600, Cuba\*\*Cuba  
Journal: Journal of Applied Toxicology 21 ( 4 ): p 297-301 July-August, 2001 2001  
Medium: print  
ISSN: 0260-437X  
Document Type: Article  
Record Type: Abstract  
Language: English

Abstract: The rectal insufflation of a judicious dose of ozone, selected from that used in clinical practice, is able to promote oxidative preconditioning or oxidative... ..preventing the hepatocellular damage mediated by free radicals. In order to evaluate the effects of ozone oxidative preconditioning on carbon tetrachloride-mediated hepatotoxicity, the following experimental protocol was designed: group 1... ..group 2 (CCl4 in sunflower oil, 1 ml kg-1 i.p.); group 3 (15 ozone-oxygen pretreatments at a dose of 1 mg kg-1 via rectal insufflation + CCl4 as in group 2); group 4 (ozone control group, 15 ozone-oxygen pretreatments + sunflower oil i.p.). Ozone pretreatment prevented glycogen depletion (as demonstrated by biochemical and histopathological findings) and avoided lactate overproduction associated with the hepatotoxic effects of CCl4. The administration of CCl4 increased lipid peroxidation (as measured by thiobarbituric acid- reactive substances) and uric acid levels and inhibited superoxide dismutase activity. All these deleterious effects induced by CCl4 were prevented by ozone pretreatment. The administration of ozone without CCl4 (ozone control group) did not produce any changes in the evaluated parameters. Our results showed that ozone treatment, in our experimental conditions, was able to prevent anaerobic glycolysis and oxidative stress induced by...

Registry Numbers: ...ozone;

Enzyme Commission Number:

DESCRIPTORS:

Diseases: ...digestive system disease, toxicity

Mesh Terms:

Chemicals & Biochemicals: ...ozone--

9/3,K/13 (Item 13 from file: 5) Links

Fulltext available through: STIC Full Text Retrieval Options

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15021412 Biosis No.: 199900281072

Prevention of renal injury after induction of ozone tolerance in rats submitted to warm ischaemia

Author: Barber E; Menendez S; Leon O S; Barber M O; Merino N; Calunga J L; Cruz E; Bocci V (Reprint)

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Journal: Mediators of Inflammation 8 ( 1 ): p 37-41 1999 1999

Medium: print

ISSN: 0962-9351

Document Type: Article

Record Type: Abstract

Language: English

Prevention of renal injury after induction of ozone tolerance in rats submitted to warm ischaemia

Abstract: On the basis that ozone (O3) can upregulate cellular antioxidant enzymes,  
Page 11

ozone2.txt

a morphological, biochemical and functional renal study was performed in rats undergoing a prolonged treatment with O<sub>3</sub> before renal ischaemia. Rats were divided into four groups: (1) control, a medial ...min), with subsequent reperfusion (3 h); (3) O<sub>3</sub> + ischaemia, as group 2, but with previous treatment with O<sub>3</sub> (0.5 mg/kg per day given in 2.5 ml O<sub>2</sub>) via rectal administration for 15 treatments; (4) O<sub>2</sub> + ischaemia, as group 3, but using oxygen (O<sub>2</sub>) alone. Biochemical parameters as fructosamine... activity and fructosamine level in comparison with either the control (1) and the O<sub>3</sub> (3) treated groups. Moreover renal SOD activity showed a significant increase in group 3 without significant differences... system capable of counteracting the damaging effect of ischaemia. These findings suggest that, whenever possible, ozone preconditioning may represent a prophylactic approach for minimizing renal damage before transplantation.

Registry Numbers: ...ozone;

Enzyme Commission Number:

DESCRIPTORS:

Diseases: ...urologic disease, vascular disease

Mesh Terms:

Chemicals & Biochemicals: ...ozone--... reactive oxygen species

Methods & Equipment: ozone therapy--... prophylactic method, therapeutic method

Geographical Name:

9/3,K/14 (Item 14 from file: 5) Links

Fulltext available through: STIC Full Text Retrieval Options

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13461633 Biosis No.: 199699095693

Inhibition of ozone-induced nitric oxide synthase expression in the lung by endotoxin

Author: Pendino Kimberly J; Gardner Carol R; Shuler Randy L; Laskin Jeffrey D; Durham Stephen K; Barton Debra S; Ohnishi S Tsuyoshi; Ohnishi Tomoko; Laskin Debra L (Reprint)

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Journal: American Journal of Respiratory Cell and Molecular Biology 14 ( 6 ): p 516-525 1996 1996

ISSN: 1044-1549

Document Type: Article

Record Type: Abstract

Language: English

Inhibition of ozone-induced nitric oxide synthase expression in the lung by endotoxin

Abstract: Inhalation of the pulmonary irritant ozone is associated with an accumulation of macrophages in the lung. These cells, along with type... epithelial cells, are activated to release increased quantities of hydrogen peroxide and nitric oxide, two reactive mediators that have been implicated in tissue injury. In the present studies we determined whether pretreatment of rats with bacterially derived endotoxin, which modulates oxidant levels in tissues, could abrogate the effects of ozone on lung injury and nitric oxide production. Acute exposure of rats to ozone (2 parts per million, 3 h) resulted in nitric oxide production in the lung as... of iNOS were evident in alveolar macrophages and type II cells. Alveolar macrophages isolated from ozone-treated rats also expressed increased iNOS mRNA and protein as measured by Northern and western blotting, respectively, and produced more nitric oxide compared with cells from air-exposed animals. Treatment of rats with endotoxin (5 mg/kg, intravenously), 30 min prior to ozone, was found to abrogate ozone-induced increases in iNOS mRNA and protein expression, as well as nitric oxide production by alveolar macrophages. This was associated with a reduction in ozone-induced tissue injury as determined by levels of lung lavage fluid protein. Ozone inhalation also resulted in a reduction in intracellular glutathione in alveolar macrophages, an effect that was blocked by

ozone2.txt

endotoxin administration. Taken together, these data provide evidence that the protective effects of endotoxin against ozone-induced injury are mediated, at least in part, by alterations in levels of lung oxidants...

Registry Numbers: ...OZONE;

Enzyme Commission Number:

DESCRIPTORS:

Chemicals & Biochemicals: OZONE;

Miscellaneous Terms: Concept Codes: ...BACTERIAL ENDOTOXIN... ...BACTERIAL TOXINS... ...OZONE; ... ...RESPIRATORY SYSTEM DISEASE;

9/3,K/15 (Item 1 from file: 34) Links

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16555402 Genuine Article#: 171JQ No. References: 15

Inactivation of particle-associated microorganisms in wastewater disinfection: Modeling of ozone and chlorine reactive diffusive transport in polydispersed suspensions

Author: Dietrich JP; Loge FJ (REPRINT) ; Ginn TR; Basagaoglu H

Corporate Source: Univ Calif Davis, Dept Civil & Environm Engn, 1 Shields Ave/Davis//CA/95616 (REPRINT); Univ Calif Davis, Dept Civil & Environm

Engn, Davis//CA/95616; Oregon State Univ, Dept Geosci, Corvallis//OR/97331

Journal: WATER RESEARCH , 2007 , V 41 , N10 ( MAY ) , P 2189-2201

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Language: English Document Type: ARTICLE ( ABSTRACT AVAILABLE )

Inactivation of particle-associated microorganisms in wastewater disinfection: Modeling of ozone and chlorine reactive diffusive transport in polydispersed suspensions

Abstract: ...Little is currently known on the penetration of chemical oxidants into particles developed in wastewater treatment. In this work, a reactive transport model that incorporates intra- and extra-particle chemical decay, radial intra-particle diffusion, mass transfer resistance at particle surfaces, and non-linear reaction kinetics within a competitive multi-particle size aqueous environment, was used to analyze the penetration of ozone and chlorine into wastewater particles. Individual characteristics from two secondary wastewater treatment facilities were used in model calibration. Simulations revealed that significant ozone transport within particles greater than 6 µm required large initial concentrations to exhaust the preferential ... ..penetration was less sensitive to variations in the extra-particle reaction and disinfectant concentration than ozone. Model simulations that considered elevated initial concentrations of chemical disinfectants revealed that complete inactivation of... ..practices (e.g., contact times). Reduction in the health risks associated with wastewater particles requires treatment that efficiently balances particle removal (filtration) and particle inactivation (disinfection). (C) 2007 Elsevier Ltd. All...

Identifiers-- ...PENETRATION; BACTERIA; KINETICS